

REMARKS

Applicants thank the Examiner for his thorough search of the art and Office Action. Applicants, by this Amendment, have amended the claims to overcome deficiencies noted in the Examiner's Official Action. After entry of this Amendment Claims 1 – 22 are pending in the Application.

**In the Office Action the Examiner rejected Claims 1, 8 and 15 under 35 U.S.C. 102(e) as being anticipated by Roesner (U.S. Patent 6,147,655; hereinafter referred to as "Roesner"). The Examiner described Claims 1, 8 and 15 (present application) and FIG. 1 (Roesner) as disclosing an antenna (10), a feed structure (26 & 28) and a discontinuity extending towards and away from the feed and being close enough to the feed to couple the feed as recited.**

Applicants respectfully traverse the Examiner's rejection of Claims 1, 8 and 15 under 35 U.S.C. 102(e) as being anticipated by Roesner. Roesner discloses a wire loop disposed on one side of a substrate in a serpentine pattern so that the length of the loop is substantially increased relative to a net area enclosed within the loop [Roesner; Col. 2, line 63 – Col. 3, line 2]. Roesner simply discloses a loop antenna element (that is, a linear antenna element) arranged on a planar substrate. Roesner does not disclose a substantially planar substantially plate-like antenna element.

The claiming of the antenna element of the present invention as being plate-like is not new material. The first embodiment of the antenna of the present invention is described as differing "from prior art antenna element 1200 (FIG. 12) chiefly in the removal of notch areas 1420 1422." [Specification: page 28, lines 11 – 12] FIG. 12 is described as illustrating current flow that is "substantially the same for any of the antenna elements 912, 914 (FIG. 9) and 1012 (FIG. 10)." [Specification: page 27, lines 15 – 16] Antenna elements 912, 914 are described as "constructed of substantially planar copper plates".

[Specification: page 25, line 11] Antenna elements 1012, 1014 are described as “constructed of substantially planar copper plates”. [Specification: page 26, lines 16 - 17] It is clear that the intended preferred structure of the various embodiments of the present invention involve a plate-like structure.

Further support for the substantially planar substantially plate-like structure present claimed in Claims 1 – 19 is the use of the term “notch” in the various claims. Webster’s Ninth New Collegiate Dictionary defines the term “notch”:

Notch n. 1.a: a V-shaped indentation b: a slit made to serve as a record c: a rounded indentation cut on the fore edge of a book 2: a deep close pass : GAP [Webster’s Ninth New Collegiate Dictionary, p. 808; copy enclosed]

Every definition of the term “notch” involves a removal of material in some manner. One can only remove material if material is present for removal. That is to say, a planar plate-like structure may have notches established therein. A wire loop disposed on a substrate in a serpentine pattern is not a structure with which one may employ a notch in the manner presently claimed. Roesner simply discloses a loop antenna element (that is, a linear antenna element) arranged on a planar substrate. Roesner does not disclose a substantially planar substantially plate-like antenna element.

The discontinuity structure of Roesner cited by the Examiner is merely a path deviation of the loop path of Roesner’s linear antenna element on a supporting substrate. That is an entirely different structure than the discontinuity of the periphery of a plate-like structure as presently claimed. Roesner consistently describes his structure as being [Roesner; Col. 3, line 6, “continuous loop pattern”; Col. 3, line 13, “continuous serpentine loop pattern”; Col. 3, line 26, “continuous conductive path”]. Roesner refers to his invention as an “antenna pattern for use on a single surface of an insulated substrate” (Roesner; Col. 3, line 31 – 32]. Nowhere does Roesner refer to or suggest or disclose a substantially planar substantially plate-like antenna element employing a notch discontinuity structure in its periphery to interfere with signals at a selected frequency so that responsiveness of the

antenna element is reduced at the selected frequency [Specification; page 29, lines 1 – 23].

Roesner does not anticipate disclose, teach, show, suggest, infer or in any way render obvious the present invention as claimed in Claims 1- 22. It is respectfully submitted that Claims 1 - 22 patentably distinguish over Roesner.

**The Examiner continued in the Office Action, rejecting claims 2, 4 – 7, 9, 11 – 14, 16 and 18 - 19 under 35 U.S.C. 103(a) as being unpatentable over Roesner in view of Dettloff (U.S. Patent 6,570,541; hereinafter referred to as “Dettloff”).**

**Regarding Claims 2, 9 and 16, the Examiner stated that Roesner does not disclose a polygonal shape element. According to the Examiner, FIG. 5D of Dettloff discloses using a polygonal element with discontinuities to obtain a desired electromagnetic field pattern.**

The Applicants respectfully traverse the Examiner’s rejection of Claims 2, 9 and 16 under 35 U.S.C. 103(a) as being unpatentable over Roesner in view of Dettloff. Dettloff adds nothing to Roesner that overcomes the absence of a substantially planar substantially plate-like structure as presently required by Claims 2, 9 and 16. As recited by the Examiner himself, the polygonal shaped elements of Dettloff are designed to obtain a desired electromagnetic field pattern. Dettloff discloses using multiple in-phase current loops to wirelessly project power in the mid field [Dettloff: Col. 7, lines 46 – 47]. Dettloff discloses no structure for his current loops except their patterns. No bobbin or related structure is disclosed. Certainly no substantially planar substantially plate-like structure is taught or suggested by Dettloff, by Roesner or by any combination of Dettloff and Roesner.

Neither Roesner nor Dettloff nor any combination of Roesner and Dettloff anticipates discloses, teaches, shows, suggests, infers or in any way renders obvious the present invention as claimed in Claims 2, 9 and 16. It is respectfully submitted that Claims 2, 9 and 16 patentably distinguish over Roesner and Dettloff.

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**Regarding Claims 4 - 5 and 11 - 12, the Examiner stated that both Roesner and Dettloff disclose multiple identical discontinuities as recited.**

Applicants respectfully traverse the Examiner's rejection of Claims 4 – 5, and 11 – 12 under 35 U.S.C. 103 (a) as being unpatentable over Roesner in view of Dettloff. Neither Roesner nor Dettloff, individually or in any combination anticipates discloses, teaches, shows, suggests, infers or in any way renders obvious antennas having a substantially planar substantially plate-like structure with discontinuities established in the periphery of the plate-like structure. In particular, neither Roesner nor Dettloff nor any combination of Roesner and Dettloff anticipates discloses, teaches, shows, suggests, infers or in any way renders obvious antennas having a substantially planar substantially plate-like structure with discontinuities established in the periphery of the plate-like structure by removing material from the plate-like structure, as by notching the periphery of the plate-like structure.

**Regarding Claims 6 – 7, 13 – 14 and 18 - 19, the Examiner stated that both Roesner and Dettloff disclose an elliptical shaped antenna as recited for the desired field pattern.**

The Applicants respectfully traverse the Examiner's rejection of Claims 6 – 7, 13 – 14 and 18 – 19 under 35 U.S.C. 103(a) as being unpatentable over Roesner in view of Dettloff. Neither Roesner nor Dettloff nor any combination of Roesner and Dettloff

discloses an elliptical shaped substantially planar substantially plate-like antenna element. Dettloff discloses in his FIG. 6 (and elsewhere) elliptical shaped current loops [Dettloff; Column 13, lines 26 – 29] that may establish an elliptic shaped virtual current loop (not identified by a reference number in Dettloff's FIG. 6). In no way does Dettloff add to Roesner to overcome Roesner's absence of a substantially planar substantially plate-like structure as presently required by Claims 6 – 7, 13 – 14 and 18 – 19.

Neither Roesner nor Dettloff nor any combination of Roesner and Dettloff anticipates discloses, teaches, shows, suggests, infers or in any way renders obvious the present invention as claimed in Claims 6 – 7, 13 – 14 and 18 – 19. It is respectfully submitted that Claims 6 – 7, 13 – 14 and 18 – 19 patentably distinguish over Roesner and Dettloff.

**The Examiner opined that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the antenna shapes disclosed in Dettloff for the antenna disclosed in Roesner to obtain desired field characteristics from the antenna as disclosed in Dettloff.**

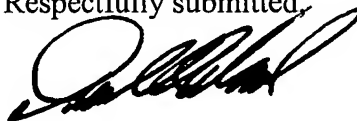
Applicants respectfully traverse the Examiner's conclusion regarding the obviousness of the invention in view of Roesner and Dettloff. Neither Roesner nor Dettloff nor any combination of Roesner and Dettloff anticipates discloses, teaches, shows, suggests, infers or in any way renders obvious the present invention as claimed in Claims 1 - 19. It is respectfully submitted that Claims 1 - 19 patentably distinguish over Roesner and Dettloff.

**The Examiner objected to Claims 3, 10 and 17 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

Applicants have submitted new Claims 20 – 22. New Claim 20 is Claim 3 rewritten in independent form including all of the limitations of its base claim and any intervening claims. New Claim 21 is Claim 10 rewritten in independent form including all of the limitations of its base claim and any intervening claims. New Claim 22 is Claim 17 rewritten in independent form including all of the limitations of its base claim and any intervening claims. Applicants respectfully submit that new Claims 20 – 22 are allowable.

Since Applicants have fully and completely responded to the Official Action, this Application is now in order for early action and such early action is respectfully requested. If the Examiner would deem a telephone conference to be of value in expediting this Application, he is invited to call the undersigned attorney at (972) 758-1955 at his convenience.

Respectfully submitted,



Donald D. Mondul

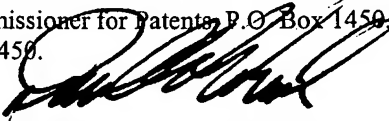
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